

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method of assigning objects to processing units of a cluster of processing units, each one of the processing units having a storage capacity, the method comprising the steps of:

a) sorting of the objects by size to provide a sequence of objects; and

b) for each processing unit of the cluster:

[[~~-~~]] assigning of one ~~ere~~ or more of the objects to the processing unit starting with the largest object in the sequence until a remaining storage capacity of the processing unit is below the smallest object of the sequence; and

[[~~-~~]] deleting of the objects which are assigned to a processing unit from the sequence.

2. (Currently Amended) The method of claim 1, ~~whereby step 1 b)~~ is wherein the steps of assigning of one or more of the objects to the processing unit starting with the largest object in the sequence until a remaining storage capacity of the processing unit is below the smallest object of the sequence and deleting of the objects which are assigned to a processing unit from the sequence are carried out repeatedly until the sequence is empty which provides a minimum number of the processing units.

3. (Currently Amended) The method of claim 1 ~~or 2~~, whereby wherein the remaining storage capacity is determined by the difference between the storage capacity and the aggregated size of objects being assigned to the processing unit.

4. (Currently Amended) The method of claim 3, further comprising the steps of:

e) determining a largest gap between the aggregated size of objects being assigned to one of the processing units and the storage capacity;_i

d) subtracting the gap divided by the minimum number of processing units from the storage capacity to provide a first threshold;_i and

e) ~~performing step 1b) again, whereby~~ for each processing unit of the cluster:
assigning of one or more of the objects to the processing unit starting with the
largest object in the sequence until a remaining storage capacity of the processing unit
is below the smallest object of the sequence; and

deleting of the objects which are assigned to a processing unit from the
sequence, wherein the remaining storage capacity is the difference between the aggregated size of the objects being assigned to the processing units and the first threshold.

5. (Currently Amended) The method of ~~any one of the preceding claims~~ claim 1
~~to 4~~, further comprising the steps of:

e) determining the total of the sizes of the objects;_i

d) determining the difference between the total of the storage capacities of the minimum number of processing units and the total of the sizes of the objects;_i

e) subtracting the difference divided by the minimum number of processing units from the storage capacity to provide a second threshold;_i

f) ~~performing step 1b) again, whereby~~ for each processing unit of the cluster:

assigning of one or more of the objects to the processing unit starting with the largest object in the sequence until a remaining storage capacity of the processing unit is below the smallest object of the sequence; and

deleting of the objects which are assigned to a processing unit from the sequence, wherein the remaining storage capacity is determined by the difference between the aggregated size of the objects being assigned to the processing unit and the second threshold; and

~~g) in case that as a result of step 5f) if after the deleting~~ there is an excess amount of memory requirement for one of the processing units which surpasses the storage capacity, dividing the excess amount by the minimum number of processing units and increasing the second threshold by the result of the division,

~~whereby steps 5f) and 5g)~~ wherein the steps of deleting the objects, dividing the excess amount by the minimum number of processing units, and increasing the second threshold by the result of the divisions are performed repeatedly until there is no such excess amount.

6. (Currently Amended) The method of claim 5, ~~whereby~~ wherein if there is no such excess amount but a gap, dividing the gap by the minimum number of processing units and decreasing the second threshold by the result of the division.

7. (Currently Amended) The method of ~~any one of the preceding claims~~ claim 1 to 6, further comprising the steps of:

e) stepwise varying a third threshold between first and second limits; and

~~d) performing step 1b)~~ for each processing unit of the cluster:

assigning of one or more of the objects to the processing unit starting with the largest object in the sequence until a remaining storage capacity of the processing unit is below the smallest object of the sequence; and

deleting of the objects which are assigned to a processing unit from the sequence for each third threshold value, ~~whereby~~ wherein the remaining storage capacity is the difference between the aggregated size of the objects being assigned to the processing unit and the third threshold, and ~~whereby~~ wherein a statistical measure is calculated for the assignment of objects to the processing unit; and

e) selecting of one of the assignments of objects to processing units based on the statistical measure.

8. (Currently Amended) The method of claim 7, ~~whereby~~ wherein the first limit is the aggregated size of the objects divided by the minimum number of processing units, and ~~whereby~~ wherein the second limit is the storage capacity.

9. (Currently Amended) The method of ~~claims claim 7 or 8~~, ~~whereby~~ wherein the statistical measure is calculated by calculation of the standard deviation or the variance of the totals of the sizes of objects assigned to one processing unit.

10. (Currently Amended) The method of ~~any one of the preceding claims claim 1 to 9~~, ~~whereby~~ wherein the objects are database tables of various sizes.

11. (Currently Amended) The method of ~~any one of the preceding claims claim 1 to 10~~, ~~whereby~~ wherein each one of the processing units is a blade or a blade server.

12. (Currently Amended) A computer program product for assigning objects to processing units of a cluster of processing units, each one of the processing units having a storage capacity, the computer program product comprising program means for performing the steps of:

a) sorting of the objects by size to provide a sequence of objects; and

b) for each processing unit of the cluster:

[[~~-~~]] assigning of one ~~one~~ or more of the objects to the processing unit starting with the largest object in the sequence until a remaining storage capacity of the processing unit is below the smallest object of the sequence; and

[[~~-~~]] deleting of the objects which are assigned to a processing unit from the sequence.

13. (Currently Amended) The computer program product of claim 12, the program means being adapted to repeatedly carry out ~~step 12b)~~ for each processing unit of the cluster:

assigning of one or more of the objects to the processing unit starting with the largest object in the sequence until a remaining storage capacity of the processing unit is below the smallest object of the sequence; and

deleting of the objects which are assigned to a processing unit from the sequence until the sequence is empty and to output a minimum number of the processing units, which are required for the objects.

14. (Currently Amended) The computer program product of ~~claims~~ claim 12 ~~or 13, whereby~~ wherein the remaining storage capacity is determined by the difference

between the storage capacity and the aggregated size of objects being assigned to the processing unit.

15. (Currently Amended) The computer program product of ~~claims~~ claim 12, ~~13-14~~, the program means being adapted to perform the steps of:

e) determining a largest gap between the aggregated size of objects being assigned to one of the processing units and the storage capacity;_i

e) subtracting the gap divided by the minimum number of processing units from the storage capacity to provide a first threshold;_i and

e) ~~performing step 12b) again, whereby~~ for each processing unit of the cluster:
assigning of one or more of the objects to the processing unit starting with the largest object in the sequence until a remaining storage capacity of the processing unit is below the smallest object of the sequence; and

deleting of the objects which are assigned to a processing unit from the sequence, wherein the remaining storage capacity is the difference between the aggregated size of the objects being assigned to the processing units and the first threshold.

16. (Currently Amended) The computer program product of ~~anyone of the preceding claims~~ claim 12 ~~to 15~~, the program means being adapted to perform the steps of:

e) determining the total of the sizes of the objects;_i

e) determining the difference between the total of the storage capacities of the minimum number of processing units and the total of the sizes of the objects;_i

e) subtracting the difference divided by the minimum number of processing units from the storage capacity to provide a second threshold;; and

~~f) performing step 12b) again, whereby~~ for each processing unit of the cluster:
assigning of one or more of the objects to the processing unit starting with the
largest object in the sequence until a remaining storage capacity of the processing unit
is below the smallest object of the sequence; and

deleting of the objects which are assigned to a processing unit from the
sequence, wherein the remaining storage capacity is determined by the difference between the aggregated size of the objects being assigned to the processing unit and the second threshold;;

~~g) in case that as a result of step 16f) if~~ after the deleting there is an excess amount of memory requirement for one of the processing units which surpasses the storage capacity, dividing the excess amount by the minimum number of processing units and increasing the second threshold by the result of the division,

~~whereby steps 16f) and 16g)~~ wherein the steps of deleting the objects, dividing
the excess amount by the minimum number of processing units, and increasing the
second threshold by the result of the divisions are performed repeatedly until there is no such excess amount.

17. (Currently Amended) The computer program product of ~~anyone of the~~
~~proceeding claims~~ claim 12 ~~to 16~~, the program means being adapted to perform the steps of:

e) stepwise varying a third threshold between first and second limits;;

~~d) performing step 12b)~~ for each processing unit of the cluster:

assigning of one or more of the objects to the processing unit starting with the largest object in the sequence until a remaining storage capacity of the processing unit is below the smallest object of the sequence; and

deleting of the objects which are assigned to a processing unit from the sequence for each third threshold value, ~~whereby~~ wherein the remaining storage capacity is the difference between the aggregated size of the objects being assigned to the processing unit and the third threshold, and ~~whereby~~ wherein a statistical measure is calculated for the assignment of objects to the processing unit; and

e) selecting of one of the assignments of objects to processing units based on the statistical measure.

18. (Currently Amended) A data processing system for determining a minimum number of processing units of a cluster of processing units for a given number of objects having various sizes, the data processing system comprising:

[[-]] means (114) for sorting of the objects by size to provide a sequence of objects;

[[-]] means (116) for assigning of one or more of the objects to a processing unit starting with the largest object in the sequence until a remaining storage capacity of the processing unit is below the smallest object of the sequence; and

[[-]] means (122, 126) for outputting of the minimum number of the processing units.

19. (Original) The data processing system of claim 18, each processing unit being a single-board computer having a bus interface to a bus system that couples the single-board computers.

20. (Currently Amended) A blade server having object size balancing means ~~(110, 112)~~ for assigning objects to a plurality of blade servers, the object size balancing means being adapted to assign objects to the blade servers by the steps of:

a) sorting of the objects by size to provide a sequence of objects; and

b) for each processing unit of the cluster:

[[~~-~~]] assigning of one ~~ere~~ or more of the objects to the processing unit starting with the largest object in the sequence until a remaining storage capacity of the processing unit is below the smallest object of the sequence; and

[[~~-~~]] deleting of the objects which are assigned to a processing unit from the sequence.